

the garden at Kincaig, Invergordon, in June; and from the same locality:—*Adkinia bipunctidaetyla*, flying amongst marshy ground on August 10th, 1909; *Grapholitha nisella*, on September 23rd, 1909; *Paedisca sordidana*, on November 9th, 1909; *Tortricodes hyemana*, reared in March, 1909, from a larva feeding on oak the previous year; and *Atemelia torquatella*, flying over a boggy heath on June, 6th, 1908. At Swordale, the following were taken:—*Chortodes arcuosa*, on July 18th, 1909; *Harpiteryx xylostella*, reared on July 14th, 1909; *Gracilaria auroguttella*, first imago reared on May 27th, 1909, from pupa found during April in folded leaves of *Hypericum pulchrum*; *Coleophora laricella*, reared on July 14th, from a larva found dangling on a silken thread from the branches of *Pinus sylvestris*, on May 2nd, 1909; *Schreckensteina festaliella*, flying amongst heather and *Rubus chamaemorus* on the moor, on May 28th, 1908; *Gracilaria stigmatella*, taken in May, 1908; and *Micopteryx aureatella*, swept from *Vaccinium myrtillus*, on June 4th, 1908. During 1909 the following were taken:—*Ephippiphora trigeminana*, flying over waste ground near the sea at Tarbat Ness, on July 12th; *Swammerdamia pyrella*, reared on July 11th, from a larva taken at Loch Achelty, Strathpeffer, in the previous October; *Prays curtisellus*, Dingwall, July 5th; *Gelechia fugitivella*, Aberfeldy, July 24th; and *Bucculatrix demaryella*, beaten from birch at the Conon Falls, Strathpeffer, on June 23rd.

Japanese Work on Dermaptera.*

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(I) *Matsumura, S.*, and *Shiraki, T.*, "Monographie der Forficuliden Japans" (*Journ. Sapporo Agric. Coll.*, vol. ii., pt. 2, pp. 75-86, figs. 1-3, 1905).

(II) *Shiraki, T.*, "Neue Forficuliden Japans" (*Tr. Sapporo N. H. Soc.*, vol. i., pp. 91-96, taf. iii., 1905).

(III) *Shiraki, T.*, "Neue Forficuliden und Blattiden Japans" (*op. cit.*, vol. i., pt. 2, pp. 1-14, 1905-6).

(IV) *Shiraki, T.*, "Neue Blattiden und Forficuliden Japans" (*op. cit.*, vol. ii., pp. 103-111, 1907).

When a man buys a new motor car he does not enter for big competitions until he has learned to drive, for a knowledge of the functions of the various levers will not save him from accident until experience and practice have rendered manipulation instinctive. The mere possession of a new horse does not teach a man to ride, and if he enters for a jumping competition in an International Horse Show, he will probably come to grief, especially if his horse be difficult to ride. In the same way, the mere possession of a new monograph of any group of insects does not qualify the owner to be a systematist until he has spent several years in special study and familiarised himself with the degree of variation and relative value of the characters employed. Acquaintance, too, with the pre-existing literature is also an essential.

It is a plaintive lament of that great entomologist, Brunner von Wattenwyl, that the publication of his wonderful *Prodromus der europaischen Orthopteren* was the signal for the appearance of a flood of local faunistic lists of species, which were generally full of errors. But

* This review appeared first in Russian in the *Revue russe d'Entomologie*, 1909, p. 335.

that *Prodromus* was so excellent a work that it contained its own cure, and this reduced to a minimum the mistakes of even inexperienced recruits. But de Bormans' monograph of the earwigs in *Tierreich* is not the same remarkable lexicon as Brunner's *Prodromus*. The worthy author was handicapped by the form of the work, by the prohibition of erecting new genera and describing new species, and even of bringing it up-to-date, for many species were omitted which had been described before his monograph was published. But the greatest obstacle lay in the fact that the sum total of our knowledge of the group was relatively so small; the number of known species has been nearly doubled since 1900, and so the monographer of that date had seen scarcely more than half of the species which we now know. It was, of course, impossible for him to construct a system with such meagre material, and it is highly creditable that he succeeded in producing so good a work as he did.

The inevitable consequence of its appearance was that many entomologists not unnaturally began to try to work out collections by means of this monograph. The most prominent was Dr. Verhoeff, who attacked the material in the Berlin Museum. This acute zoologist at once perceived the faults in the old system, which he ruthlessly swept away, but he offered little in exchange; he only gave us an outline of portions of a system. In the words of a well-known American entomologist, he built a new house, but only erected the doors and windows. His ignorance of the general literature and his lack of familiarity with the actual insects involved him in numerous errors.

In the same way, Japanese entomologists sought to do original work on this unsatisfactory foundation, and in the four papers quoted above, we find the result of their efforts. Before criticising, we must remember the difficulties under which they laboured; remote from the libraries and collections of Europe, out of touch with European workers, they could never have been familiar with the actual creatures about which they were reading, and so could not have been capable of appreciating the relative value of many of the characters employed by de Bormans, many of which, as time has since shown, are quite useless; such are the coloration of feet and antennæ, the development or abbreviation of the wings and the elongation of the forceps. Consequently we find the errors in their works are of two kinds, unavoidable and avoidable.

Among the more or less unavoidable errors, we may mention the failure to appreciate true generic affinities and ignorance of recent literature.

But the avoidable errors are more important; the greatest is the erection of new genera based on insufficient material. The genus *Mesolabia*, Shiraki (*supra*, III, p. 12), is based upon a single specimen, and what is infinitely worse, that one a female. It ought to be a recognised principle in systematic entomology, that no new species may be founded upon females alone; how much worse, therefore, is it to erect a genus upon such slender foundations. In Dermaptera especially it is fatal, for it is an unfortunate fact that, in many cases, not only specific, but even generic, characters are discernible in the male alone.

The second avoidable error is the description of new species without figures. This should be condemned in Entomology as it is in

Palæontology; the ideal is perhaps difficult of attainment on account of the expense, but outline illustrations are cheap, and are decidedly better than nothing.

A third avoidable error, and a serious one, is the poverty of general remarks upon the affinities of new species.

A fourth is the form of the descriptions, reduced to extreme conciseness on the model of those given in de Bormans' *Monograph*, where stress is laid on unimportant characters, valuable features being often overlooked.

We may now proceed to consider the four papers in order, dealing with the different species described.

No. I is a synopsis of the earwigs known to the authors to occur in Japan. It is interesting to learn that *Labidura riparia*, Haan, and *Forficula tomis*, Kol., are harmful to the silk growers, as they eagerly devour the larvæ; that *Apterygida japonica*, Borm., as well as *Anisolabis maritima*, Bon., is a coast-loving insect, and that both feed on dried herrings, and that *Labia yezoensis*, Mats. and Shir., is useful, devouring insects which damage leaves, such as *Cacacia rosaceana* and *C. sorbiana*, which do great damage to fruit in Hokkaido.

The synoptical table of genera on p. 76 is adopted direct from de Bormans, whose arrangement of the innumerable forms of *Labidura riparia* is naturally followed by the authors.

We observe here for the first time that each species is credited with a trivial name; this leads us to wonder whether the Japanese peasants discriminate the various species of earwigs, or whether these are invented by the authors, on the lines of some of the egregious popular names of our British lepidoptera. They all appear to end with the word "hasamimushi," which is the name for *Anisolabis maritima*; Ohasamimushi is *L. riparia*; probably this simply means "earwig," the various prefixes being fancy epithets, as we see *Labia yezoensis* is called "Yezo-hasamimushi." *Labia yezoensis* is a new species of which the male is figured, together with the forceps of the female. In figure and description it appears to agree fairly well with *Spongiphora lewisi*, Borm. (*Ann. Mag. N.H.* (7), xi., p. 234, 1903), although the pygidium appears to differ somewhat. But it is a well-known fact that, in species where this organ is large, and specialised, its development varies to a considerable extent in different individuals. As *S. lewisi* was described two years before this paper appeared, the burden of proof lies with the latter authors, and it is pretty safe to assume that *Labia yezoensis* is a synonym of *S. lewisi* until the contrary is proved.

Forficula tomis, Kol., has recently been divided into two species by Semenoff (*Rev. Russe d'Ent.*, 1908, p. 166) who restricted that name to the Eurasian form, separating the Japanese stouter and larger insect as a distinct species under the name *F. robusta*, Sem.

Apterygida japonica, Borm., is now recognised as a true *Anechura*.

Apterygida longipyygi (p. 84, fig. 2) is beyond any doubt whatever identical with *Forficula mikado*, Burr (*Trans. Ent. Soc. Lond.*, 1904, p. 319), under which it consequently falls as a synonym.

Chelidura diminuta (p. 85, fig. 3) is obviously immature; the description of immature specimens of fully-winged forms as new species, even as new genera, is a mistake not uncommonly made by Dermapterists whose experience has not been very extensive. To what species

this larva should be referred it is impossible to say; very likely to *F. mikado*. It is certain that it cannot stand as good.

No. II is a supplement to No. I, and, like that paper, is fortunately illustrated by a plate which, though not very clear, is still useful.

Labidurodes nigritus (p. 91, fig. 1) is described as having the body robust, but the figure belies this; compared with the figure given by Dubrony of *L. robustus*, the type of the genus, it is decidedly slender; the appearance of the creature, and long, slim forceps, show that it is not a *Labidurodes*: it is probably one of the *Labiidae*, and is very likely a good species. *Labidurodes formosanus* (p. 92, fig. 2) is described as a male, but the figure looks suspiciously like that of a female and is suggestive of *Chelisochidae*. It is recorded from Formosa, and so belongs to the rich Oriental fauna. Like the preceding, it is probably not a *Labidurodes*, but its true position cannot be suggested until the type be examined, nor determined until the male be associated with it.

Anisolabis pallipes (p. 93, fig. 3) has rudimentary elytra, and so we must place it in the recently-erected genus *Borellia*, Burr; no species of the genus has yet been recorded from Japan. The male is not known; it is probably a good species.

Anisolabis fallax (p. 94, fig. 4) is compared with *A. marginalis*, Dohrn. The writer of this notice possesses three species of *Anisolabis* from Port Hamilton, Tsushima, and "Japan" respectively, but is uncertain which to refer to the true *A. marginalis* of Dohrn, as he has so far had no opportunity of examining the type. *A. fallax* is probably to be referred to one of these. The points referred to by the author to separate it from *A. marginalis*, are mere distinctions, without being differences ("dunkler," "nicht heller," "aber deutlich duenner"), and so we have little hesitation in sinking it as a synonym.

A. piceus (p. 94) only differs from *A. fallax* in having 27 segments on the antennæ, instead of 16 (probably the others have been broken off in *A. fallax*). This is a valueless character, as these organs are very subject to damage, even during the life of the insect; it is not even known what is the normal number in the common *F. auricularia*, L. The other character lies in the unicolorous feet and antennæ. Whoever has handled many specimens of *A. annulipes* knows how untrustworthy this is. Consequently we sink *A. piceus* as a synonym of *A. fallax*, and therefore probably of *A. marginalis*.

No. III. This paper is unfortunately not illustrated, so we must struggle with the descriptions. As all new species described are from Formosa, this is the more difficult, the *Dermaptera*-fauna of that island being practically unknown; we may expect many of these new species to be good, but it is quite impossible to determine their affinities without seeing the types or receiving fresh material from Formosa.

Labidurodes okinawaensis (p. 7) is compared with *L. formosanus*, Shir. It may well be only a variety.

L. singularis (p. 8) is compared with *L. nigritus*, but the pygidium is different.

Forficula ruficeps (pp. 8-9) is certainly not *Forficula ruficeps* of Erichson (*Arch. f. Naturgr.*, viii. (1), p. 246, 1842), which is an Australian *Nesogaster*; nor is it *Forficula ruficeps* of Burmeister (*Handb.*, ii., p. 755, 1838), which is a Mexican *Neolobophora*. From the description of the forceps, it seems to be a true *Forficula*, and is probably a

perfectly good species, but there are no remarks upon its affinities with any known form.

Apterygida aeris (p. 9) is described from a single female. As it is only in the male forceps that it is possible to distinguish the genus *Apterygida* from *Forficula*, we wonder why the author hit upon the former instead of the latter genus for its reception. It is impossible to even guess its affinities.

Apterygida flavocapitata (p. 10) is unfortunately not figured; from the description it appears to be a well-marked species. It is strongly suggestive of the genus *Timomenus*, and perhaps allied to *T. bicuspis*, Stål.

Apterygida crinitata (p. 11), from the undulation of the forceps, might well be an *Anechura*, or perhaps an *Allodahlia*.

Mesolabia (p. 12) is a new genus based upon a single female, and so must be unhesitatingly rejected. It is said to resemble *Labia*, but to have a less rounded penultimate ventral segment. In how many of the sixty or seventy species of *Labia* has the author examined this organ? The last dorsal segment is more exposed; this feature depends upon the distension of the abdomen; the last dorsal segment is sometimes well exposed in gravid females. The presence of the scutellum is suggestive of the *Pygidicraniidae*, as the author remarks.

The unique species is called *M. nitakaensis* (p. 112), its position is, of course, doubtful.

No. IV is also not illustrated. The specimens are all from Formosa.

Labia flavoguttata (p. 103) is described from a female alone, and its position is consequently doubtful.

Diplatys flavicollis (p. 104) is probably a good species. This genus is so difficult that a new species can hardly be arranged in its true position without a careful comparison of the type with a good authentic collection. De Bormans described half a dozen species, separated by colour alone; two dozen are now known, discriminated by structure, regardless of colour. Fortunately, the description of this new species is good; the subcontiguous conical forceps, inflated last dorsal segment, and amply subquadrate penultimate ventral segment (referred to as "letztes Sternit") suggests relationship with *D. liberata*, Burr, from Burma, and the African group of *D. rajfrayi*, Borm., and *D. aethiops*, Burr.

Taipinia (p. 105) is a new genus, "akin to *Apterygida*." Unfortunately *Apterygida*, as understood by de Bormans, has been split into several genera, and most of the species removed to other groups, so this tells us little about *Taipinia*. The forceps are remote in both sexes, and the abdomen has four tubercles; this suggest *Eparchus*, though the single species, *T. pulla*, suggests Anechurine relationship.

I can find no reference to anything that might be *Anechura* (*Odontopsalis*) *harmandi*, Burr, or *A. lewisi*, Burr, neither of which appear to be rare in Japan.

All the papers are written in German; it is a pity they were ever written at all; there are Japanese appendices, which are probably translations; misprints are numerous.

RESUMÉ.

Labia yezoensis.—Perhaps = *Spongiphora lewisi*, Borm.
Forficula tomis, Kol. = *Forficula robusta*, Sem.